CS4314 Computer Networking
Spring 2019 Syllabus

Cheaper versions: Amazon.com – Rent till 5/28/19 for $40 - follow this amazon rental link. Buy or rent eTextbook for $82-$91 – follow this amazon eTextbook link. Buy paperback for $21 – follow this amazon paperback link. Vitalsource.com - Rental for 130 days ($41) - Follow the vitalsource link.

General Course Information

Instructor: Lopamudra Roychoudhuri
E-mail: lroychoudhuri@angelo.edu
Office: MCS 205E
Campus Phone: (325) 486-5448
Class Times: MWF 12:00-12:50 pm
Classroom: MCS 114
Course Web Site: Blackboard
Office Hours: MTWRF 3:00-5:00pm

Prerequisite:
None.

Course Objectives:
This course provides an introduction to the principles and basic concepts of computer networking and data communications with a focus on the Internet. Students will study network protocols, architectures and technologies that are used in the Internet layers. Experiments using real devices, such as switches and routers at the Network/Security lab, as well as Wireshark, a widely popular packet analyzer tool, are included to give students hands-on experience.

Student Learning Goals:
Students who successfully complete this course will have demonstrated the ability to:

1. Understand network architecture, both hardware and software,
2. Understand various networking protocols, the TCP/IP protocol stack in particular, and client-server applications,
3. Apply networking technology and applications to business scenarios,
4. Solve problems and create solutions in a seminar environment,
5. Explore the horizons of the ever-expanding technology by delivering a team project on a “real world” networking topic beyond what is covered in class.
Grading:

<table>
<thead>
<tr>
<th>Grading Criteria</th>
<th>Dates</th>
<th>Weights</th>
<th>Goals Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Daily/Weekly/biweekly</td>
<td>30%</td>
<td>1 thru 4</td>
</tr>
<tr>
<td>Project</td>
<td></td>
<td>20%</td>
<td>4 thru 5</td>
</tr>
<tr>
<td>Exam 1</td>
<td>2/11/19</td>
<td>15%</td>
<td>1 thru 2</td>
</tr>
<tr>
<td>Exam 2</td>
<td>4/1/19</td>
<td>15%</td>
<td>1 thru 3</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Mon 5/6/19 1:00-3:00</td>
<td>20%</td>
<td>1 thru 4</td>
</tr>
</tbody>
</table>

GRADE | PERCENT
---|---------
A | 90 – 100
B | 80 – 89
C | 70 – 79
D | 60 - 69
F | 0 - 59

Week by week tentative schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/14, 1/16, 1/18</td>
<td>Module 1: Introduction to Computer Networks and the Internet. (Ch. 1); Number systems</td>
</tr>
<tr>
<td>2</td>
<td>1/23, 1/25</td>
<td>Module 1: Network Protocols</td>
</tr>
<tr>
<td>3</td>
<td>1/28, 1/30, 2/1</td>
<td>Module 2: Network Devices: Data Link Layer (Ch. 5)</td>
</tr>
<tr>
<td>4</td>
<td>2/4, 2/6, 2/8</td>
<td>Module 2: Network Devices: Data Link Layer cont.</td>
</tr>
<tr>
<td>5</td>
<td>2/11, 2/13, 2/15</td>
<td>Exam 1 on 2/11; Module 2: Network Layer (Ch 4)</td>
</tr>
<tr>
<td>6</td>
<td>2/18, 2/20, 2/22</td>
<td>Module 3: Network layer cont.</td>
</tr>
<tr>
<td>7</td>
<td>2/25, 2/27, 3/1</td>
<td>Module 3 Network layer cont.; Project proposal due on 2/25</td>
</tr>
<tr>
<td></td>
<td>3/11 - 3/15</td>
<td>Spring Break</td>
</tr>
<tr>
<td>9</td>
<td>3/18, 3/20, 3/22</td>
<td>Module 4: Transport Layer (Ch. 3)</td>
</tr>
<tr>
<td>11</td>
<td>4/1, 4/3, 4/5</td>
<td>Exam 2 on 4/1; Module 3 Transport Layer cont.</td>
</tr>
<tr>
<td>12</td>
<td>4/8, 4/10, 4/12</td>
<td>Module 4 Transport Layer cont.</td>
</tr>
<tr>
<td>13</td>
<td>4/15, 4/17, 4/19</td>
<td>Module 5 Application Layer (Ch. 2)</td>
</tr>
<tr>
<td>14</td>
<td>4/22, 4/24, 4/26</td>
<td>Module 5 Application Layer cont.</td>
</tr>
<tr>
<td>15</td>
<td>4/29, 5/1, 5/3</td>
<td>Project presentation; project report due</td>
</tr>
<tr>
<td>16</td>
<td>5/6/19 (Monday)</td>
<td>Final Exam 1:00-3:00</td>
</tr>
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Class Policies:

TEAMS
You will form teams of 2 or 3. The teams will be chosen on the first day of class, and will be maintained till the end of semester.

ASSIGNMENTS
- There will be many kinds of assignments that you will complete in and out of class.
In-class assignments: these fall in two categories:

- **Class work Assignments:** We will discuss topics in class and work on assignments. You will be able to collaborate with your fellow students in order to complete these. Assignments that could not be completed in class will be taken out-of-class and turned in. The grade from these assignments will constitute 20% of the total Assignment grade.

- **In-class quizzes:** We will also have in-class quizzes that may be team-based or individual. The grade from the quizzes will constitute 10% of the total Assignment grade.

Out-of-class assignments: these fall in two categories:

- **Graded homework assignments** - the purpose of the homework assignments is to give you individual out-of-class practice on the topics that you are learning, and to explore some ideas more deeply. The grade from the homework assignments will constitute 70% of the total Assignment grade.

- **Videos and/or readings** – You will complete watching videos and/or some reading from the textbook or other sources prior to every class session. These will be announced beforehand. This is to ensure that you are familiar with the topics that will be discussed in the class, and may be validated by the in-class quizzes.

All assignments, unless otherwise specified, must be submitted to Blackboard containing your name, course name, the title of the assignment and the due date.

*No late assignment will be accepted. No e-mail or in-person submission is accepted.* There are no exceptions to this rule.

All homework assignments should be the work product of each individual. Cheating occurs when a student either submits work for a grade that is not entirely due to his/her own effort or allows others to use her/his work. Cheating occurs when a student submits work product that is copied from another student. Cheating on an assignment or exam will result in a failing grade for the course. No student shall look towards the work of any other student during exams as it shall be construed as cheating.

**Academic Honor Code:** Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at [Academic Honor Code](#) in [Student Handbook](#). You should familiarize yourself with it. If a student violates this policy in any way, the student may receive a sanction of failure on the assignment/exam or failure in the course. If you have questions about appropriate citations, please ask.

**TEAM PROJECT**

Each team will select a topic that will allow the group to study some aspect of the “real world” networking in detail beyond what is covered in class. The outcome of the project will be a project report as well as a class presentation. You will submit your own report that clearly
shows your contributions to the project. Each team will prepare a 15-20 minute presentation and answer related questions.

EXAMS
All students must take all the exams at the scheduled times. There are no makeup exams. Only exception will be student absence for observance of religious holy day (see below). If one exam is missed, the final exam will count double to make up for the missed exam. Only one missed exam can be made up this way. If more than one exam is missed, a grade of zero will be given for the additional missed exam. *The final exam must be taken on its assigned date and time.* For students taking all three exams, the final exam grade can replace a lower grade on one of the first two exams if the final exam grade is higher. Only one regular exam grade can be replaced in this way.

ATTENDANCE
Attendance is mandatory *(no excused absences)* and roll will be taken.

GRADEBOOKS
During the course of the semester, you are expected to monitor your performance on assignments and exams by accessing your grades online. It is your responsibility to: (1) insure that correct entries have been made into the gradebook, and (2) be aware of your performance in the class. Grade percentages are shown on this syllabus so you can compute your own grade standing as the semester progresses.

E-MAIL
You are required to obtain an e-mail account. If you have any question about the course or need assistance, please contact me in person or by telephone during office hours, or by e-mail at any time.

LAB POLICY
No food or drinks are allowed in the lab.

General Policy Statements

**Academic Accommodations:**
Persons with disabilities that may warrant academic accommodations must contact the Student Life Office, Room 112, University Center, in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

**Student Absence for Observance of Religious Holy Day**
1. “Religious holy day” means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20.
2. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.
3. A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

**Modifications to the syllabus**

The instructor and the university reserve the right to modify or change the syllabus (schedule, course requirements, grading policy, etc.) as the curriculum and/or program require(s).

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iii [https://www.amazon.com/TCP-Protocol-Suite-Forouzan-2010-12-23/dp/B01NBOU36V/ref=mt_paperback?_encoding=UTF8&me=](https://www.amazon.com/TCP-Protocol-Suite-Forouzan-2010-12-23/dp/B01NBOU36V/ref=mt_paperback?_encoding=UTF8&me=)


vi [https://www.angelo.edu/student-handbook/](https://www.angelo.edu/student-handbook/)